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5

determining a received power level for each user class; and

requirement based on the received power levels for all user classes and the activity variables for all user classes.

per user, and wherein the step of determining a number of users is further based on the number of codes.

4. The method of claim 1 wherein the received power level for each user class is random and log-normally distributed.





9. The method of claim 6 further comprising the step of reducing the number of codes assigned to each of the plurality of data users in response to a request from a new data user to access the cellular carrier.

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11. A computer-readable medium containing instructions for determining a capacity of a CDMA cellular carrier supporting traffic from a plurality of users, including a voice user and a multi-code data user, each user belonging to a user class, each user class having an activity variable and a quality of service requirement, by:

determining a received power level for each user class; and

determining a number of users in each user class that satisfies the quality of service requirement based on the received power levels for all user classes and the activity variables for all user classes.

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13. A computer-readable medium containing instructions for enhancing the capacity of a CDMA cellular carrier supporting traffic from a plurality of users, including a plurality of voice users and a plurality of multi-code data users, each data user having an adjustable activity factor and capable of transmitting at an adjustable activity level, and each user having a fixed quality of service requirement, by:

determining a measure of the traffic from the plurality of voice users;

determining a measure of the traffic from the plurality of data users;

assigning to each of the data users an identical number of codes;

adjusting the activity factor for each data user based on the measures of traffic from the plurality of voice users and the plurality of data users and the quality of service requirement of each of the plurality of users; and

controlling the activity level of each of the plurality of data users in response to the adjusted activity factor.

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14. A computer-readable medium containing instructions for enhancing the capacity of a CDMA cellular carrier supporting traffic from a plurality of users, including a plurality of voice users and a plurality of multi-code data users, each data user having an adjustable received power level, and each user having a fixed quality of service requirement, by:

assigning a feasible power level to each of the plurality of users;

determining and assigning a minimum power level to each of the plurality of users;

determining a maximum received power level from among the received power levels of the plurality of users;

determining a ratio of the maximum received power level to the minimum power level assigned to each of the plurality of users;

selecting the smallest ratio;

scaling the minimum power level assigned to each of the plurality of users by the smallest ratio; and

assigning the scaled power level to each of the plurality of users.

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